## Amendments to the Specification:

Please amend the specification as follows:

Please replace paragraph number [0029], with the following rewritten paragraph:

[0029]

When a rotation angle of a rotation detection target is $\theta_0$, the rotation angle converter converts the output of the rotation detecting means containing a ripple having an amplitude of "a" (the symbol "a" is italicized in mathematical expressions in this specification) to a rotation angle output $\theta$, which is expressed by following Expression 2:

$$\cancel{\theta = \theta_0 - a\cos(n\theta_0 + \phi)} \qquad \underline{\theta = \theta_0 - a\cos(m\theta_0 + \phi)} \ldots \quad \text{(Expression 2)}$$

where "m" is a ripple periodic number per rotation of the detection target, and "$\phi$" is an initial phase difference caused by mounting of the rotation detecting means to the rotation detection target.

Please replace paragraph number [0030], with the following rewritten paragraph:

[0030]

In the present invention, for instance, the angular velocity converter differentiates "$\theta$" with respect to time to obtain an angular velocity output $\omega$, which is expressed by the following Expression below ("$\theta$" with a dot denotes the time differentiation of "$\theta$", and may be represented in this specification by "$\theta$ dot" due to the limitation of the patent application format.):

$$\cancel{\omega = \dot{\theta}_0(1 + an\sin(n\theta_0 + \phi))} \quad \underline{\omega = \dot{\theta}_0(1 + am\sin(m\theta_0 + \phi))} \ldots \text{(Expression 3)}$$

Please replace paragraph number [0031], with the following rewritten paragraph:

[0031]

If the rotation calculating means calculates its output "$\omega_{out}$" in accordance with Expression 1, Expressions 2 and 3 may be substituted into Expression 1 to express "$\omega_{out}$" as follows:

$$\cancel{\omega_{out} = \dot{\theta}_0\left(1 - G\sin\left(\psi - an\cos\left(n\theta_0 + \phi\right) + n\theta_0\right) + an\sin\left(n\theta_0 + \phi\right)\right.}$$
$$\cancel{\left. - anG\sin\left(\psi - an\cos\left(n\theta_0 + \phi\right) + n\theta_0\right)\sin\left(n\theta_0 + \phi\right)\right)}$$

$$\underline{\begin{aligned}\omega_{out} &= \dot{\theta}_0(1 - G\sin(\psi - am\cos(m\theta_0 + \phi) + m\theta_0) + am\sin(m\theta_0 + \phi)\\ &- amG\sin(\psi - am\cos(m\theta_0 + \phi) + m\theta_0)\sin(m\theta_0 + \phi))\end{aligned}}$$

... (Expression 4)

Please replace paragraph number [0032], with the following rewritten paragraph:

[0032]

In Expression 4, the ripple amplitude is generally small, and thus it can be considered that "a"<<1. Thus, Expression 4 may be expanded while the trigonometric functions are subjected to linear approximation near an angle of zero to obtain the following expression:

$$\cancel{\omega_{out} = \dot{\theta}_0\left(1 - G\sin\left(\psi + n\theta_0\right) + anG\cos\left(\psi + n\theta_0\right)\cos\left(n\theta_0 + \phi\right)\right.}$$
$$\cancel{\left. + an\sin\left(n\theta_0 + \phi\right) - anG\sin\left(\psi - an\cos\left(n\theta_0 + \phi\right) + n\theta_0\right)\sin\left(n\theta_0 + \phi\right)\right)}$$

$$\underline{\begin{aligned}\omega_{out} &= \dot{\theta}_0(1 - G\sin(\psi + m\theta_0) + amG\cos(\psi + m\theta_0)\cos(m\theta_0 + \phi)\\ &+ am\sin(m\theta_0 + \phi) - amG\sin(\psi - am\cos(m\theta_0 + \phi) + m\theta_0)\sin(m\theta_0 + \phi))\end{aligned}}$$

... (Expression 5)

Please replace paragraph number [0033], with the following rewritten paragraph:

[0033]

Assuming that "aG = 0", the following Expression may be obtained:

$$\cancel{\omega_{out} = \dot{\theta}_0(1 - G\sin(n\theta_0 + \psi) + an\sin(n\theta_0 + \phi))}$$

$$\underline{\omega_{out} = \dot{\theta}_0(1 - G\sin(m\theta_0 + \psi) + am\sin(m\theta_0 + \phi))} \ldots \text{ (Expression 6)}$$

Expression 6 indicates that the output "$\omega_{out}$" of the rotation calculating means is equal to the angular velocity "$\theta_0$ dot" of the detection target if the amplitude adjusting gain "G" is set to be equal to the ripple content "am" and if the phase adjusting value "$\psi$" is set to be equal to the initial phase difference "$\phi$". It means that the ripple contained in the output of the rotation angle detection means can be eliminated.

Please replace paragraph number [0034], with the following rewritten paragraph:

[0034]

The angular velocity ripple component "$\omega_r$" per unit angular velocity contained in the rotation detection device may be given by the following Expression 7:

$$\cancel{\omega_r = an\sin(n\theta_0 + \phi)} \qquad \underline{\omega_r = am\sin(m\theta_0 + \phi)} \ldots \text{ (Expression 7)}$$

Please replace paragraph number [0035], with the following rewritten paragraph:

[0035]

Therefore, when a compensation angular velocity ripple "$\omega_c$" per unit angular velocity that may be given by the following Expression 8 is added to the angular velocity ripple "$\omega_r$",

$$\cancel{\omega_c = G\sin(n\theta + \Psi)} \qquad \underline{\omega_c = -G\sin(m\theta + \psi)} \ldots \text{ (Expression 8)}$$

the synthesized angular velocity ripple "$\omega_m$" per unit angular velocity obtained after compensation may be expressed by the following Expression 9:

$$\cancel{\omega_m = \sqrt{(n\theta)^2 + G^2 + 2n\theta GB\cos(\phi - \Psi)}\sin(n\theta + \Omega)}$$

$$\underline{\omega_m = \sqrt{(ma)^2 + G^2 - 2maGB\cos(\phi - \psi)}\sin(m\theta + \Omega)}\text{... (Expression 9)}$$

where

$$\cancel{\tan\Omega = \frac{n\theta\sin\phi + G\sin\Psi}{n\theta\cos\phi + G\cos\Psi}} \quad \underline{\tan\Omega = \frac{ma\sin\phi - G\sin\psi}{ma\cos\phi - G\cos\psi}}\text{... (Expression 10)}$$

Please replace paragraph number [0036], with the following rewritten paragraph:

[0036]

If "$\phi = \Psi$" in Expression 9, $\omega_m$ is expressed by the following Expression 11:

$$\cancel{\omega_m = (n\theta + G)\sin(n\theta + \Psi)} \quad \underline{\omega_m = (ma - G)\sin(m\theta + \Psi)}\text{... (Expression 11)}$$

Please replace paragraph number [0038], with the following rewritten paragraph:

[0038]

Then, when "$\omega_c$" and "$\omega_m$" have the same phase, the increase/decrease in $\Psi$ is zero.

Further, the phase "$\psi$" may be defined by the following Expression 13:

$$\Psi(n+1) = \alpha\sum_{k=1}^{n} e_2(k)\text{... (Expression 13)}$$

where $e_1(n)$ is the deviation, from zero, of a time differential or a time integral of "$\omega_m$" which is sampled when the angle "$m\theta + \psi$", which is the angle of "$\omega_c$", is "$2n\pi + 3\pi/2$"; $\alpha$" is an appropriate gain.

Thus, "$\psi$" may be defined, in connection with the change in the angle ~~"$m\theta + \Phi$"~~ "$m\theta + \psi$" from 0 to $2\pi$, by the following Expression 14:

$$\Psi(n+1)=\alpha\left(\sum_{k=1}^{n} e_1(k)-\sum_{k=1}^{n} e_2(k)\right) \ldots \text{(Expression 14)}$$

Please replace paragraph number [0040], with the following rewritten paragraph:

[0040]

Under such a definition, if "$\phi = \psi$", the increase/decrease in "G" is zero when the half-cycle time average value of "$\omega_m$" is equal to "$\omega_{mAV1}(n)$". When the "$\omega_c$" angle "$m\theta + \Phi$" changes from "$2n\pi + \pi$" to "$2n\pi + 2\pi$", "G" may be defined by the following Expression 16:

$$G(n+1)=\beta\sum_{k=1}^{n}\left(\frac{1}{T_2(k)}\int_{(2k\pi+\pi)}^{(2k\pi+2\pi)}\omega_m \mathrm{d}t-\omega_{mAV2}(k)\right) \ldots \text{(Expression 16)}$$

where: $t(2n\pi + 2\pi)$ and $t(2n\pi + \pi)$ are points of times at which ~~"$m\theta + \Phi = 2n\pi + \pi$" and "$m\theta + \Phi = 2n\pi + 2\pi$"~~ "$m\theta + \psi = 2n\pi + \pi$" and "$m\theta + \psi = 2n\pi + 2\pi$", respectively; "$\omega_{mAV2}(n)$" is the average value of "$\omega_m$" sampled at these points of time; $\beta$ is an appropriate gain; and ~~$T_2(n) = t(2n\pi + 2\pi) - t(2n\pi)$~~ $T_2(n) = t(2n\pi + 2\pi) - t(2n\pi + \pi)$.

Then, the time average value "$\omega_m$" is equal to "$\omega_{mAV2}(n)$" in the remaining half cycle of the rotation angle.

Please replace paragraph number [0041], with the following rewritten paragraph:

[0041]

Thus, "G" may be defined, in connection with the change in the angle "m$\theta$ + $\psi$" from 0 to 2$\pi$, by the following Expression 17:

$$G(n+1)=\beta\left(\sum_{k=1}^{n}\left(\frac{1}{T_1(k)}\int_{(2k\pi)}^{(2k\pi+\pi)}\omega_m \mathrm{d}t-\omega_{mAV1}(k)\right)-\sum_{k=1}^{n}\left(\frac{1}{T_2(k)}\int_{(2k\pi+\pi)}^{(2k\pi+2\pi)}\omega_m \mathrm{d}t-\omega_{mAV2}(k)\right)\right)$$

... (Expression 17)

When "G" is defined as described above, "G" converges to ~~"-m$\theta$"~~ "ma" and the amplitude of "$\omega_m$" becomes zero, as shown in Fig. 5(b).